List of Figures

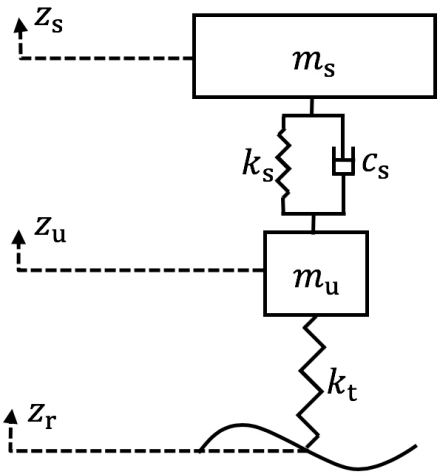

Figure 1: A quarter-car model with conventional parallel spring-damper suspension layout.

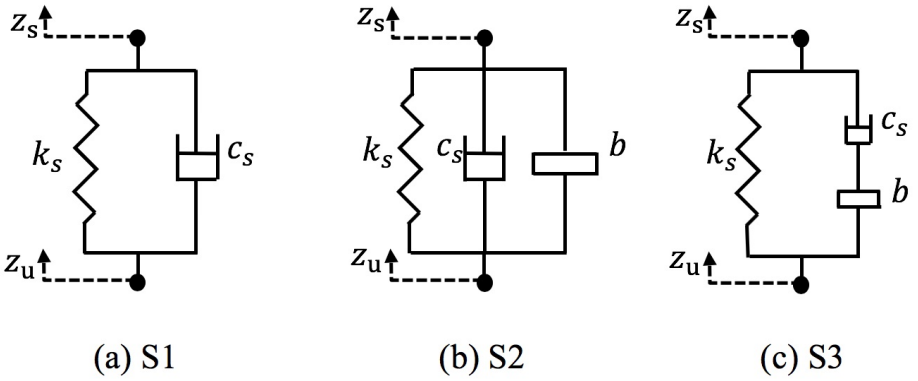

Figure 2: Candidate suspension layouts.

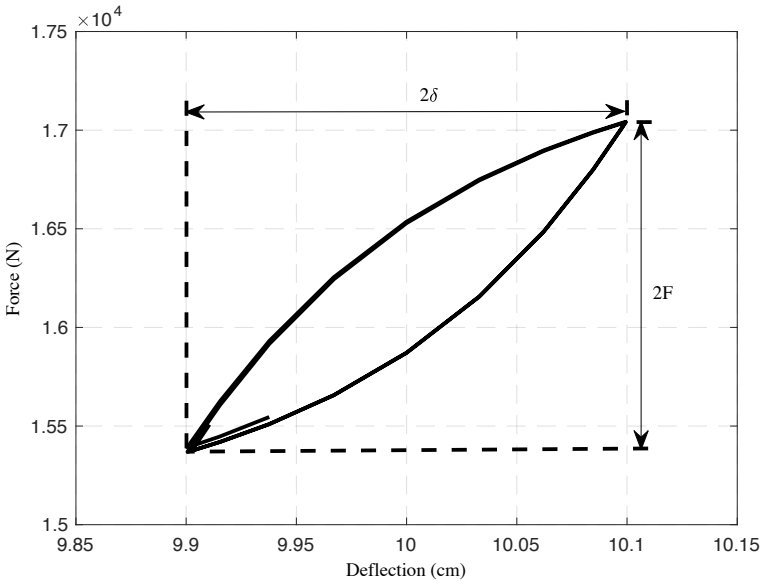

Figure 3: Typical force-deflection characteristics of a leaf spring.

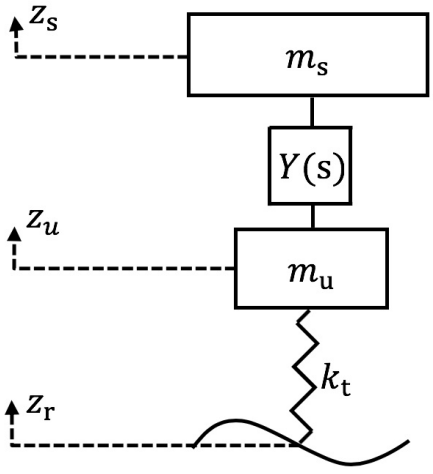

Figure 4: A heavy truck quarter-car model.

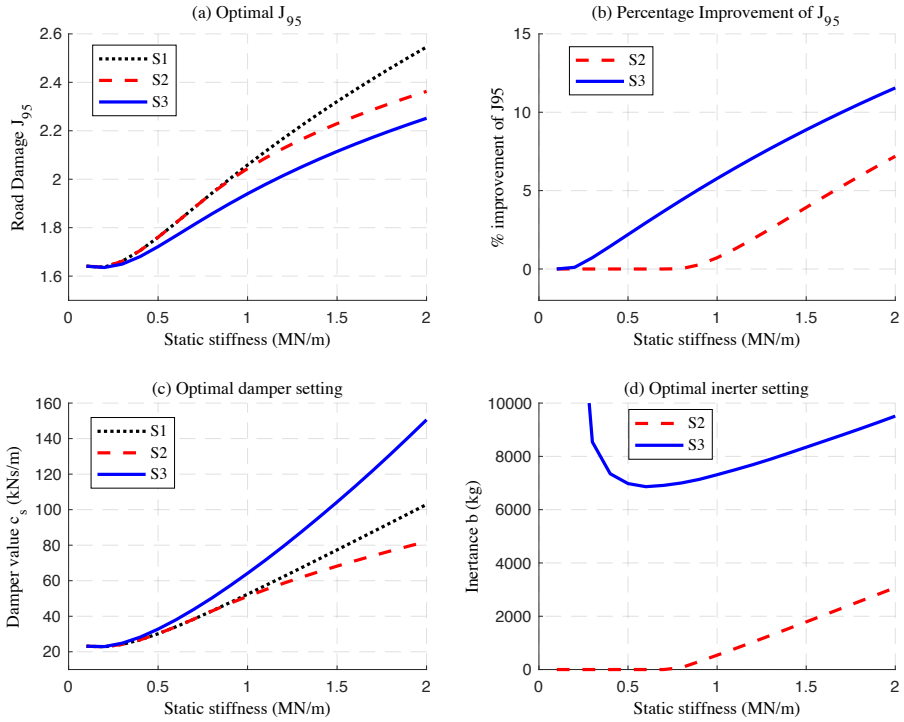

Figure 5: (a) The optimum road damage J_{95}, together with (b) corresponding percentile improvements, (c) optimum damper values, and (d) optimum inertance values of candidate suspension layouts for a quarter-car model.

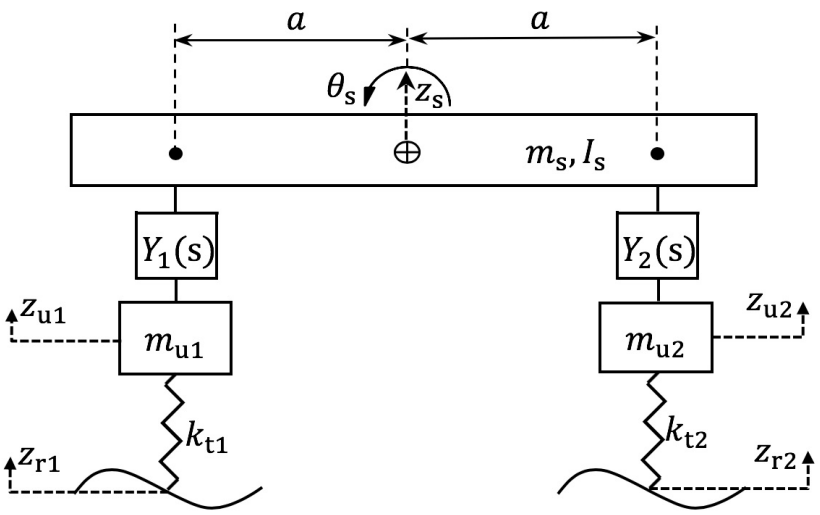

Figure 6: A heavy truck pitch-plane model.

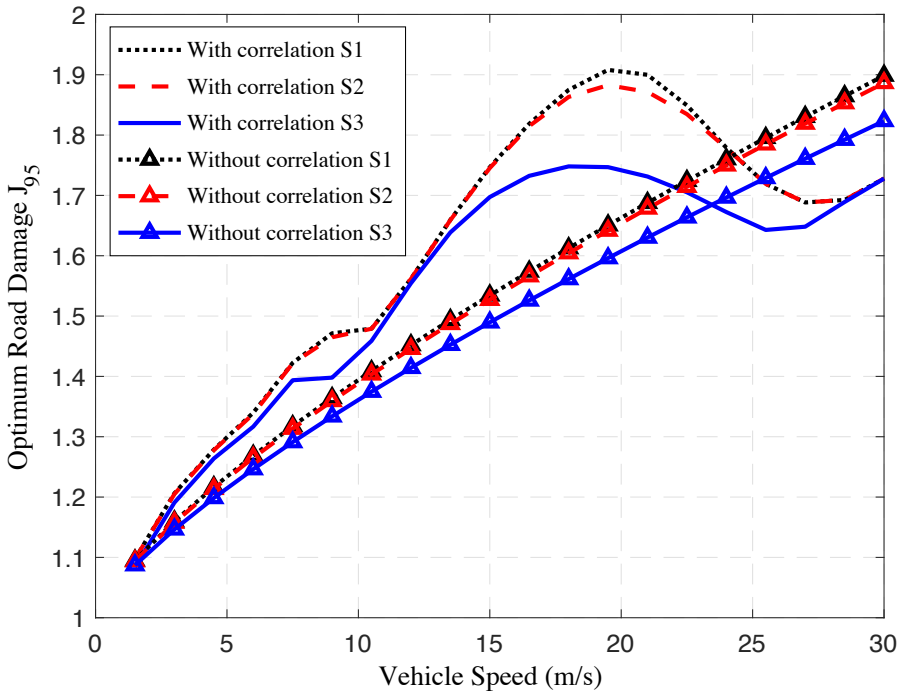

Figure 7: The road damage with optimum b versus vehicle speed for both inputs and outputs correlated or uncorrelated.

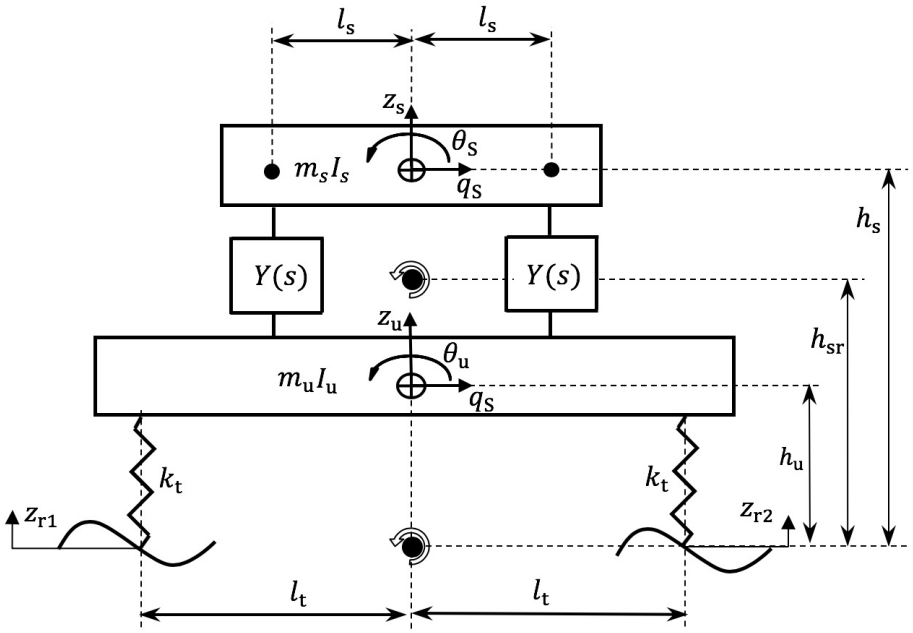

Figure 8: A heavy truck 4 DoF roll-plane model.

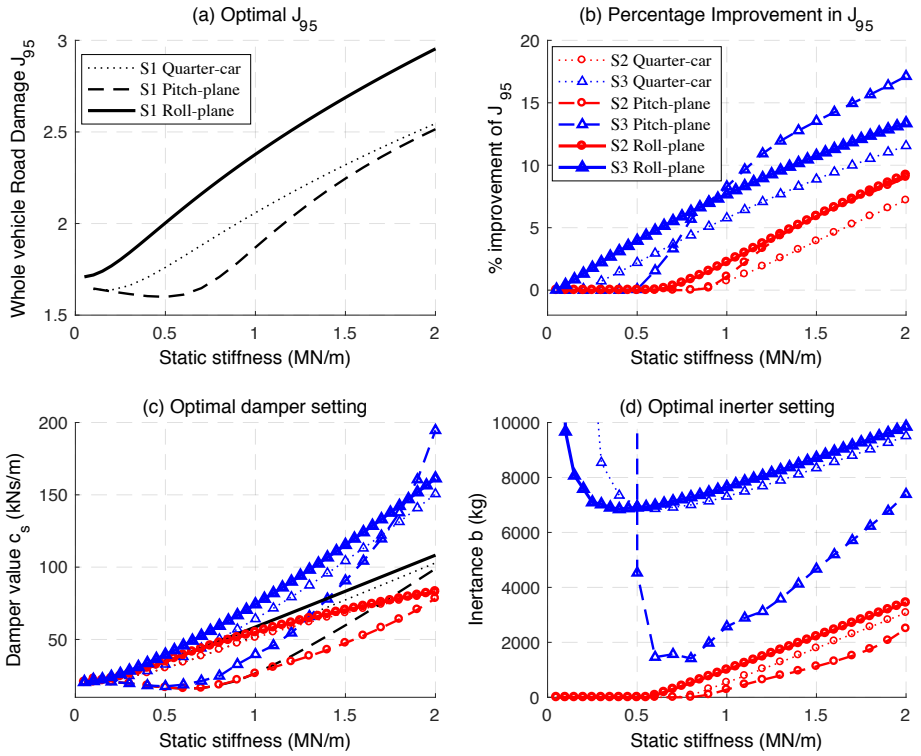

Figure 9: (a) Optimum road damage J_{95} of suspension layout S1 for each model. (b) comparison of percentile improvements against S1 in optimum road damage, (c) corresponding optimum damping (c) and (d) inertance values (b) of candidate suspension layouts for the quarter-car, pitch-plane and roll-plane models.

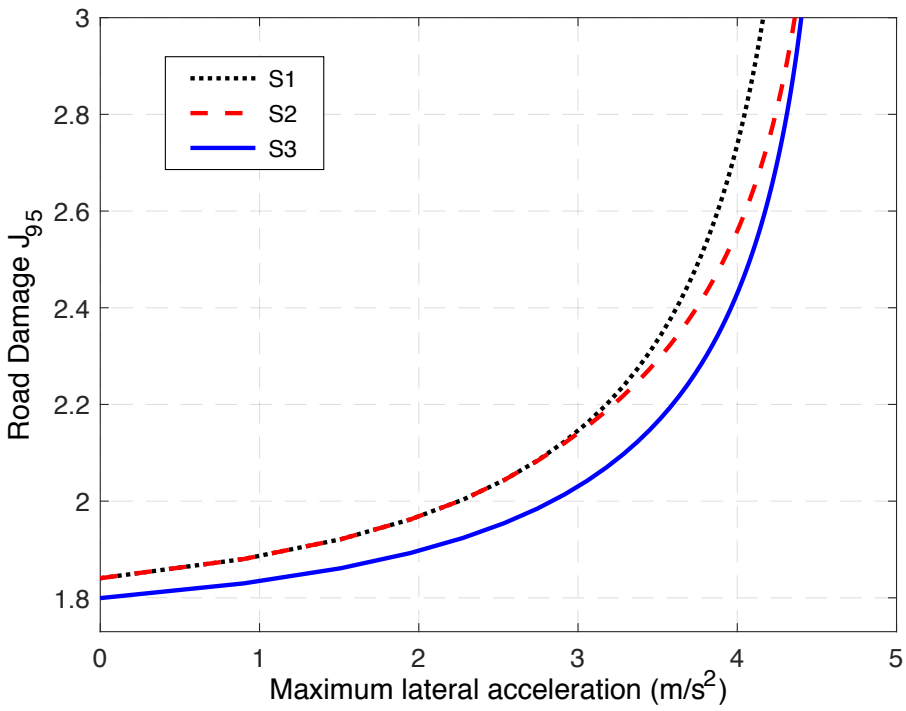

Figure 10: Static rollover threshold versus road damage for suspension layouts S1, S2 and S3.